

ABSTRACT OF THE DISCLOSURE

The present invention relates in general to systems used to determine whether airbag deployment should be disabled or modified due to the proximity of the occupant to the airbag. In particular, the present invention is an image processing system that uses an image and signal process that utilizes real-time streaming video-images from a video camera to determine if the occupant is too close to the air bag, or will be too close to the air bag by the time that the airbag deploys. In a crash situation, the system quickly determines whether or not the airbag should be disabled or modified. The process uses a multiple-model Kalman filter to infer three-dimensional information from a sequence of two-dimensional images. The system predicts the position and shape of the occupant at a faster rate than the rate in which the camera collects data.

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